Handscapes: Reflecting upon the use of Locative Media to explore Landscapes

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1 Introduction

Smart phones are becoming a standard across creative and consumer communities and their locative properties are beginning to change the way that we navigate physical and social spaces. Platforms such as the Apple iPhone and Google Android that contain GPS (Global Positioning Systems) technology are becoming a powerful research platform for exploring rural and urban landscapes. Traditionally used as an academic and industrial aid to fieldwork and navigation, 'locative media' systems are beginning to offer platforms for creative experimentation for landscape architects. This paper reflects on two funded research projects that offer 'on the ground' insights into urban landscapes: 1. Comob and 2. Walking Through Time.

Comob is a method of social and spatial mapping. This software for the iPhone allows groups of people to see each other's movements represented on screen as circular nodes with lines linking their individual positions. This data is also sent live to visualisation software that allows observers to see their movement at a distance. In workshops Comob has been used to map abstract environmental pollution such as sound and smell, that would otherwise be difficult to document in real-time.

Walking Through Time is a creative project funded by JISC to develop a smart phone based application that allows people to not to be located in the 'now', but instead in the past. Upon launching the phone application, users are able to find themselves in 'present' space, but by selecting from a series of historical maps they suddenly find themselves in a map of the same area but 150 years earlier (for example). The software then allows users to follow streets and walk through walls that have since been transformed through urban re-development.

The paper explores how each application offers new dimensions for the creative use of locative media to analyse, articulate and understand the landscape.

2 Comob

2.1 Overview

Comob[1] software was developed to offer a specific property that remains absent from other hardware and software systems that utilise GPS technology. Traditional GPS devices function to provide an accurate location for the user. Once the position is established a host of different services are offered to the user including: navigation services, waypoint tagging and route plotting, however many services concentrate upon the individual user and few have the capability to access network data to pin point other users who also have GPS devices. With the advent of GPS technology becoming a popular feature of smart phones, software such as Google Latitude has began to share location data with other smart phone users via data connections with the internet. Software of this kind is stable and popular but only identify the location of others in the form of independent pinpoints. Comob software proposes that merely plotting others individual locations offers a limited perspective upon groups of people, but through connecting their locations with lines, opportunities arise to observe group dynamics and in addition offers novel ways in which to map space.

Published as a free application on the Apple App Store that is available on all iPhones, Comob has been used through a series of workshops to explore what the process of linking small groups of people by lines offers in contrast to traditional mapping systems. The authors have been concentrating upon the use of Comob to help small groups map subjective 'zones' within a geographic area. Workshops to date (Edinburgh, Manchester, Belfast and Dundee) have used the open-ended theme of pollution as a subject to map within a city. Pollution was picked because within any given group of small people, its specifics would be highly contested, in other words, what is a beautiful part of the landscape to one person, may be pollution to another[2].

2.1.1 Case Study: Mapping noise pollution, Edinburgh

In Edinburgh, September 2009, Comob was used for a workshop to map noise pollution and became a catalyst for discussion of how pollution is experienced and perceived on the ground. Upon arrival at the workshop session the group of five participants were introduced to the application and briefed with the task of working as a small team to identify points of pollution and demarcate them by forming a Comob 'shape' around the area. After a few tests that established the principles of the software and how it worked on the iPhone, the group chose to demarcate the spatial extent of noise that was coming from a building site within the city.

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1 Comob and Comob Net is a digital arts project that explores the potential for collaborative mapping with GPS technology funded by the Edinburgh College of Art, with the support of University of Lancaster and Edinburgh University. Comob workshop and related research is led by J. Southern and. C. Speed. The application was written by: J. Ehnes and H. Ekeus. The workshops are part of a larger investigation into collaborative mapping also involving C. Lowry, W. Mackaness & M. Wright. http://www.comob.org.uk.

2 This process of 'collaborative' mapping was the inspiration for the name Comob: a cooperative mob, co-mob.

Fig. 1: The building site in Edinburgh which became the focus of the noise pollution workshop (left). Comob visualisation software showing the shape that was formed as participants moved away from the building site until they could no longer hear the noises generated from there.

Drawing the extent of the noise pollution generated by the building site was established through a short discussion between group members. It was decided that the five participants would walk away from the same corner of the building site in different directions and each stop when they couldn't hear the sounds from the building site anymore. Viewing their own iPhone screens as they walked, each group member could see the other participants moving away from the building site causing the Comob shape to expand until one by one, each of the nodes stopped moving. Once it was agreed that everyone was no longer walking, the team noted the time on the devices and this was used as a reference point to later study the scale of noise pollution emitted from the building site (Fig. 1).

The exercise took approximately ten minutes and the results were later reviewed by the group using the visualisation software that is able to replay the movement of selected Comob users in real-time, over a Google map of anywhere in the world.

2.2 Initial Findings

During the workshop it became clear that many different methods of mapping and walking were possible. Participants would begin with a very specific idea of what they wanted to map, e.g. the visual pollution of branding, or litter, conceived of as categories before the walk began. These fixed ideas quickly became modified as the walks evolved and the original idea was explored in the actual conditions.

Whilst reflecting upon their experiences of using Comob, participants of workshops have described a numbers of experiences that indicate that the software offers particular insights into interpreting the landscape:

1. Using Comob meant that initial assumptions about an abstract concept such as pollution were immediately brought into question. Litter might seem like a straightforward category but when a group went out to map it they quickly realised that their assumptions were both confirmed and challenged on the ground. Instead of discussing this at a later date, the software encourages discussion and reflection in action and in situ.
2. Having agreed a subject of pollution, Comob encourages people to reflect on their individual perceptions of that form of pollution by asking them to decide where it stops and starts by mapping it with their bodies. By seeing how other people were making these decisions, participants questioned their own decisions.
3. Comob showed a potential for use in the co-ordination of strategic spatial action. Each participant was able to see the rest of the group and co-ordinate their movements. In offering the overview from within an embedded view group movements can be co-ordinated in new ways.

3 Walking Through Time

3.1 Overview

Walking Through Time is a mobile application that allows smart phone users with built-in GPS to not only find themselves in the present, but find themselves in the past. By making available historical maps of Edinburgh, users are able to scroll through time, and navigate places using maps that are hundreds of years old. Funded by a JISC rapid innovation grant, the application was developed collaboratively between Edinburgh College of Art and the University of Edinburgh[3].

Upon launching the phone application, users are able to find themselves in 'present' space, but by selecting from a series of historical maps they find themselves in a map of the same area but 150 years earlier (for example). The software then allows users to follow streets and walk through walls that have since been transformed through urban re-development. The investigators were initially interested in the sense of identification that users have expressed as they identify themselves as the 'blue dot' on the screen that is able to 'walk' on a historical map as though it was laid beneath their feet across 'present' space. Whilst this is a generic attribute of the application, the author (one of the development team) has begun to employ the software into the context of Landscape Architecture, and through short workshops is discovering how the application is able to reveal different interpretations of landscapes.

3 Walking Through Time was funded by a JISC rapid innovation grant. The application is a working prototype for the city of Edinburgh and was developed collaboratively between Edinburgh College of Art and the University of Edinburgh. Conceptual and Historical Development: I. Campbell, C. Speed and K. Sutherland, ECA. Technical Development: D. Berry, P. Leimlehner and P. Pratt, UoE. Mapping Support: J. Reid, B. Butchart and T. Urwin, Edina, UoE. The project website is: http://www.walkingthroughtime.co.uk and access to the application maybe granted with permission, see website for details.

3.2 Case Study: AHRA Field/Work Conference

During the AHRA Field/Work conference in December 2009, the Walking Through Time application was used by a small group of academics to explore the urban landscape surrounding the University of Edinburgh. The morning workshop concentrated upon an area that has seen dramatic urban redevelopment both architecturally and through landscaping.

A group of three conference delegates walked from a street corner on the edge of the University campus, across an area of mixed development, past George Square gardens and into the vicinity of an old city hospital that is now being refurbished into new apartments.

The route of their walk began at the corner of the University of Edinburgh's campus that has seen radical changes in the last 100 years (Region 1). Upon launching the application and selecting a map from the 1850's, the group were faced with a new building (School of Informatics) that sat directly on Bristo Street which on the 1850 map stretched out diagonally before them (Fig. 2). This immediate difference between past and present allowed the group to establish the level of transformation of the urban landscape. It is important to note that the participants were encouraged to remain in the 1850 map, the application offers a hybrid view that mixes the Google map of today with the historical map.

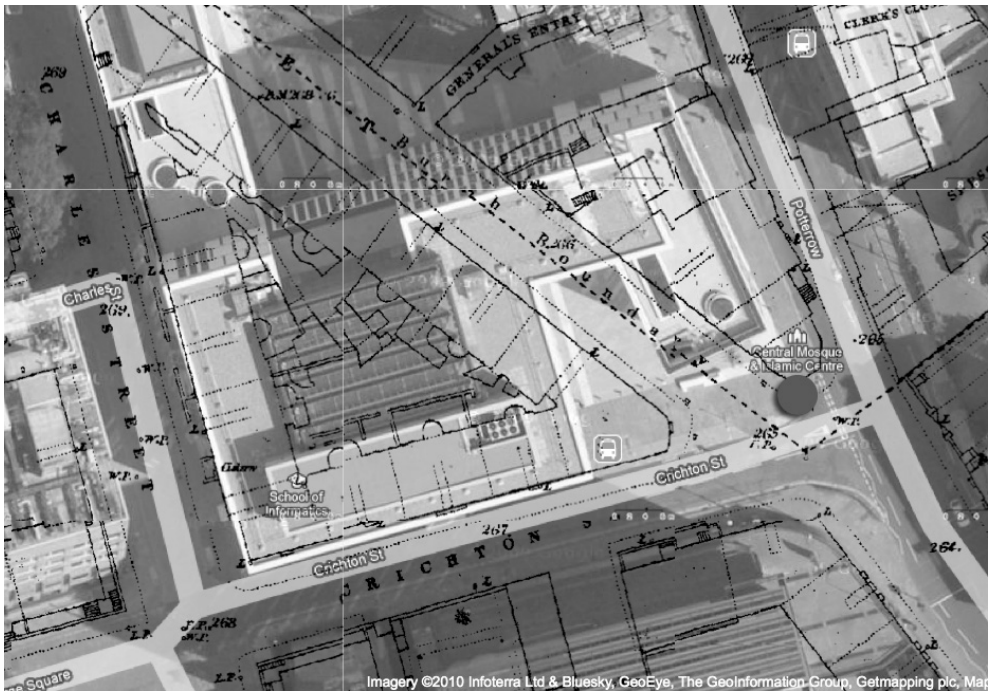

Fig. 2: Region 1. The start of the walk began immediately with a new building that prevented them from walking down an old road.

Fig. 3: Region 2. The participants moved into a 19th Century garden to find little change.

Moving East down Crichton Street the group headed toward George's Square Gardens, that was developed in mid 18th Century. Upon entering the gardens from the street the group were made a significant realization: whilst the line of houses shifted from the 18th Century to the 20th Century, the park remained relatively faithful to its original plan (Fig. 3). Able to use the historical map to navigate, the group walked through the park and claimed to be able to identify trees that seem to have remained in the same place since the 1850's. The reflected upon how the trees and not the buildings actually offered 'anchors' between the historical map and the present day experience, that contemporary digital maps often ignored.

Moving out of George's Square the group headed toward an area that is under going terrific change today (Region 3). The Edinburgh Royal Infirmary occupies a large area on the edge of the Meadows (a very large public park). Established in 1729 the hospital consists of many old buildings that stand upon a urban plan that has changed significantly over the last 150 years. The group could not enter the site of the hospital because it is under-going large-scale transformation into apartments and facilities by architects Fosters and Partners. Now a building site that is mixing contemporary architecture whilst retaining many features of the old, the group found the historical maps offered significant differences to what they saw across the building site.

Up until this point the group had remained in the 1850 map of the area, but upon seeing the dramatic transformation of the Hospital, the group chose to jump forward in time to the 1870 map. Upon loading the 1870 map the group noticed further architectural and landscaping details that they could identify as being closer to the 'image' of the present

day, although still dramatically different to what they saw was building constructed on the building site. Reflecting upon the experience of loading the second historical map on to the former, the group described how the software made it clear the scale of complexity within landscape development. Whilst the first map allowed them to demonstrate the difference between two time frames: 1850 and the present, use of the 1870 map reminded them of the many different iterations of design and transformation that the landscape had undergone.

One member described how by being 'in' one historical map you identified the obvious comparisons with the present day, but upon launching a map that was 'in between' the earliest map and the present, it dawned upon you how many iterations the landscape must have been through, and how useless maps are at charting change – only difference. Another group member commented upon how surprisingly few records we seemed to have that documented social and architectural transformation, even though they accepted that Edinburgh was reasonably well mapped compared to many other European cities.

3.3 Initial Findings

Although the workshop was not organised in a specific manner to gather detailed data, the preliminary feedback from the group indicated three areas of potential benefit for landscape designers:

1. The capacity for smart phones equipped with GPS to locate the individual as a marker within a map, coupled with the use of a historical basemap, allows users to identify themselves within period of landscape history that requires that they comprehend the changes in the environment around them. Whilst traditional paper maps offer the same information, the experience of identifying oneself as the marker within a map provokes more sophisticated spatial/temporal knowledge.
2. The experience of using a historical map to 'satnav' through a landscape allowed users to identify features that had remained throughout time. In particular the large trees that could be walked up to, and used as 'anchors' across past and present maps.
3. The quantity of quickly accessible maps that each retained the users position, allowed the group to quickly reflect upon the transformations in the landscape around them. The process of jumping between times also allowed them to identify key features that had been lost between maps, and described why new features had been formed in a particular way.

4 Conclusions

Both Comob and Walking Through Time demonstrate some of the potentials for handheld smart phones to provide new interpretations of the landscapes around us. Although not initially developed for use by landscape designers, the applications reveal opportunities for mapping, reading and understanding places on the ground and in situ. For many years the use of digital technology within Landscape Architecture has been restricted by desk bound computer systems that are networked by wires and cables, this can cause a considerable distance between a projects site and the studio. Mobile devices offer an opportunity to

locate the design eye within social, ecological and historical landscapes and offer insights that were previously hindered by the dislocation between desk and site. The value of the handheld is that it connects the hands to the feet, so that we can walk our landscapes as well as use tools to develop our knowledge of their complexity. TIM INGOLD has discussed and refuted the traditional separation of the hands and the feet as instrumental in our understanding of the world: the feet as merely technologies of locomotion, and the hands as tool-makers, manipulators and related to the mind. For INGOLD, the feet are part of a whole bodily engagement with the world (INGOLD, 2004). This perception of 'culture on the ground' is fundamental to our process: in walking in the city a greater understanding of the spatial, sensory and temporal perception of the world allows for new possibilities of mapping. Mapping with Comob is, however, always a social negotiation of space and place, bringing, as it were, GOFFMAN'S "social public space" into the practices of GPS use (GOFFMAN, 1963).

Ingold has further suggested that people do not walk through the world as if guided by a mental map, that instead they 'feel their way' through a world that is itself in motion, continually coming into being through the combined action of human and non-human agencies" (INGOLD, 2000). This feeling of the way became the method for both sets of workshops, in the context of Comob, people would look, smell, listen and think about forms of pollution, and for Walking Through Time they would use their eyes and the historical map to sense shifts in landscape across time. For sure, both processes required all of the participants to be in the landscape all of the time.

The closing of the gap between experiences within the landscape and from reading the map allows for a discussion of the negotiations between the landscape and the designer. In Comob, the discussion centered around 'pollution' and individual assumptions became contested through the negotiation between fellow participants and the systems of viewing the place, i.e. the 'view from nowhere' the map projection, and the 'view from somewhere', on the ground (BÜSCHER, 2006). For Walking Through Time, historical features within the landscape become the medium of negotiation, as users worked between maps to consider the age of features and how change has occurred. Walking Through Time exhumes the 'ghosts' of times past, "ghosts [that] might reveal something about people's senses of place – about the way affect is woven into the fabric of place; part and parcel of the processes that produce places as places" (PILE, 2004).

Although Landscape Architecture has embraced digital systems, and has some mobile devices within its toolbox, it is in the new generation of networked locative handheld systems that the field can begin to integrate the social, historical, ecological and geographical perspectives upon the landscape. An integration that can begin to happen on the ground and not just in the studio.

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